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Clinical Review

MYOFASCIAL PAIN SYNDROMES IN THE EMERGENCY DEPARTMENT: WHAT ARE WE MISSING?

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□ **Abstract—Background: Myofascial pain syndrome (MPS), pain originating in the myofascial tissue, is a widely recognized pathology characterized by the presence of referred pain (often distant from its origin and specific to each muscle) that can resemble other pathologies and by the presence of a trigger point, a localized hyperirritable band able to reproduce the pain and its associated symptoms. Patients with acute or chronic MPS are commonly seen in the emergency department (ED), usually complaining of pain of undetermined origin. Traditionally, the emergency physician (EP) is not trained to diagnose and treat MPS, and many patients with MPS have received less than optimal management of this condition in the ED. Many types of treatments are known to be effective against MPS. Among these, trigger point injection (TPI) is considered a practical and rapid approach that can be carried out in the ED by EPs. Objective: This article reviews the current diagnostic methods, treatment options, and procedures for MPS patients seen in the ED to enable EPs to diagnose and successfully treat this condition. Discussion: This article discusses the clinical characteristics, etiology, diagnosis, and treatment of MPS in the ED, including a description of performing TPI. Conclusions: MPS can mimic other clinical conditions commonly seen in the ED. MPS can be diagnosed on the basis of clinical findings; in many cases, no imaging or laboratory testing is needed. Therefore, MPS diagnosis and treatment can be successfully accomplished in the ED by EPs.** © 2015 Elsevier Inc.

□ **Keywords—myofascial pain; trigger points; emergency medicine**

INTRODUCTION

Myofascial pain syndrome (MPS), pain originating in the myofascial tissue, is a commonly recognized condition characterized by the presence of referred pain (often distant from its origin and specific to each muscle) (Table 1) and by the presence of a trigger point (Figure 1), a localized hyperirritable band able to reproduce the pain and its associated symptoms. Patients with acute or chronic MPS are commonly seen in the emergency department (ED), usually complaining of pain of undetermined origin (1).

Myofascial pain is a common component of most chronic pain syndromes. In fact, myofascial pain is calculated to be present in 10% of the United States (US) population (2). According to the Centers for Disease Control and Prevention, second to arthritis of all etiologies, myofascial pain of the back is considered the top cause of disability among the working-age population (ages 20–64 years) in the United States (3). It is also known that, overall, pain accounts for up to 78% of visits to the ED; however, in the ED, the prevalence of pain secondary to MPS is unknown because MPS commonly goes undiagnosed in this setting (4). Even after many hours spent in the ED, patients with high-intensity pain are frequently discharged having received relatively little relief (5). Many patients with MPS seen in the ED receive less than optimal diagnosis and management of this

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Table 1. Referred Pain and Mimicking Pathology of Some Muscles Commonly Affected by Myofascial Pain Syndrome

Muscle	Muscle Location	Referred Pain	Mimicking Pathology
Trapezius	From occiput to thoracic spine and from the clavicle to the scapular spine	Head, neck, shoulder, and mid-back	Neck, spine, lung conditions (i.e., pneumothorax, meningitis, aortic dissection)
Iliocostalis thoracis	Axial distribution parallel to thoracic spine; attaches to the lower six ribs	Anterior chest and upper abdomen; correlates with the level of muscle injury	Lung, cardiac, vascular (i.e., pneumothorax, coronary artery syndromes) Upper abdominal visceral conditions (i.e., cholelithiasis and spleen disease)
Iliocostalis lumborum	Axial distribution parallel to lumbar spine; from lower six ribs to sacrum and ilium	Lower abdomen and pelvis	Visceral, vascular, and gastrointestinal conditions (i.e., diverticulitis, appendicitis)
Quadratus lumborum	Lateral lower back; connects the hip and lower back vertebrae	Lower back, anterior aspect of lower abdomen and pelvis	Lower visceral, gastrointestinal, and gynecological conditions (i.e., appendicitis, ovarian torsion, ectopic pregnancy)
Gluteus medius	Inferior-posterior to iliac crest	Lumbar area	Renal and vascular conditions (i.e., urolithiasis, pyelonephritis, abdominal aortic aneurysm)
Gluteus minimus	Between posterolateral iliac spine and femoral head	Buttock, lateral thigh, and posterior leg above ankle	Sciatica
Paraspinal	Adjacent to the spine	Posterior thoracic and lumbar area	Vascular, thoracic, and retroperitoneal conditions (i.e., aortic dissection, aortic dissection)

condition. MPS has been largely neglected by the emergency medicine specialty, perhaps because MPS does not represent an immediate threat to life or limb. However, MPS does pose a substantial threat to the patient's quality of life and might represent a portion of recurring visits to the ED. It is therefore crucial that all emergency physicians (EPs) learn to identify and, when possible, treat some of the most common MPS.

Several issues have been identified that complicate the diagnosis and treatment of MPS in the ED. One issue, EPs' general lack of familiarity with MPS presentation, diagnosis, and treatment, has been well documented (6). Briefly, the physicians in the Emergency Medicine specialty traditionally are not trained to diagnose and treat MPS. Therefore, the diagnostic presentation and therapeutic implications of MPS are frequently unknown

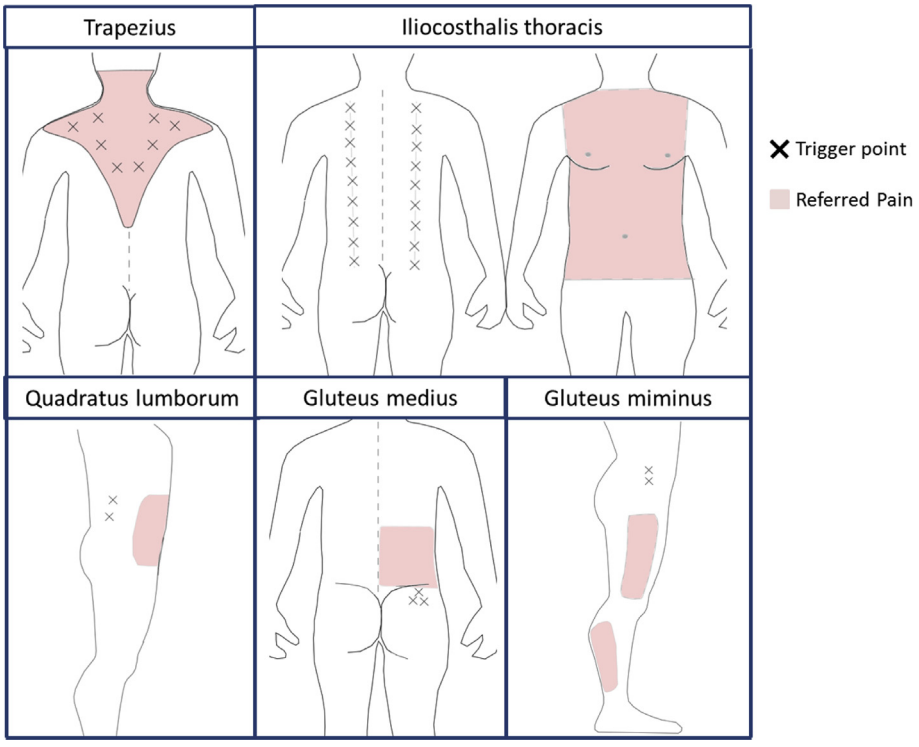

Figure 1. Referred pain and trigger point location of some common myofascial pain syndromes.